



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/500,198

06/24/2004

Mach A. DeBenedictis

2001/13

9177

43693 7590 08/22/2008
INVISTA NORTH AMERICA S.A.R.L.
THREE LITTLE FALLS CENTRE/1052
2801 CENTERVILLE ROAD
WILMINGTON, DE 19808

EXAMINER

YI, STELLA KIM

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

08/22/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Kathy.L.Crew@invista.com
iprc@invista.com

Office Action Summary	Application No. 10/500,198	Applicant(s) DEBENEDICTIS, MACH A.	
	Examiner Stella Yi	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Amendment filed May 20, 2008 has been entered and fully considered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over DEBENEDICTIS et al. (US 6,471,906 B1) and BAEK et al. (9404690 B1).

In respect to instant claims 1, 7, 9-11, 13, 19-24, and 25-29, DEBENEDICTIS et al. discloses a yarn making process and apparatus having a low tension relax zone with at least one pair of relax rolls, comprising: providing a relax zone, where yarn is relaxed; providing a tension gate in said relax zone through which the yarn passes (Col.3, lines 1-19). Polyesters can be employed with this invention (Col.4, lines 40-44). DEBENEDICTIS et al. does not explicitly disclose the said yarn making process comprising an air shield comprising perforated plates positioned between the relax rolls. However, BAEK et al. discloses preparing polyester fiber where the method comprises setting the multiple-holed air flow plates (air shield with perforated plates) between a

Art Unit: 1791

pair of rollers (Abstract). Also, in respect to instant claims 22-23, BAEK et al. discloses that maintaining a range of angle of the plates from the central axis of the roller would prevent over-flow of air (Abstract). Therefore, positioning the plates about 1 cm from relax rolls would have been obvious in order to achieve this objective. It would have been obvious to one of ordinary skill in the art to incorporate the air shield of BAEK et al. in the yarn making process of DeBenedictis et al. The motivation for the combination would have been to reduce fiber-breakage and ensure the efficient productivity of fiber-making (Abstract).

In respect to instant claims 2 and 14, DEBENEDICTIS et al. discloses a yarn making process and apparatus where said tension gate comprises one or more air drag devices, one or more liquid drag devices, and one or more solid surface contact devices (Col.3, lines 36-39).

In respect to instant claims 3-5 and 15-17, DEBENEDICTIS et al. discloses that the said air drag devices comprise an intermingler or countercurrent flow of air device; said liquid drag devices comprise a finished applicator or a pool of liquid in the thread line path; and said solid surface contact devices comprise one or more rolls (Col.3, lines 39-47).

In respect to instant claims 6 and 18, DEBENEDICTIS et al. discloses that the said yarn making process comprises a turbine driven roll or a free-wheeling roll (Col.7, lines 38-67).

In respect to instant claim 8, DEBENEDICTIS et al. discloses that the yarn making process comprises spin drawing, draw-twisting, draw-bulking processes (Col.1, lines 22-24).

In respect to instant claim 12, DEBENEDICTIS et al. discloses that the said tension gate creates a tension differential on said yarn of at least five milligrams per denier (Col.3, lines 54-56).

Response to Arguments

4. Applicant's arguments filed May 20, 2008 have been fully considered but they are not persuasive.

Applicant argues on pages 6-7 of the Remarks:

(a) While the cited art teaches the use of a tension gate (DeBenedictis et al.) or an air shield (Baek et al.), neither reference discloses, teaches, or suggests the combination of the tension gate and the air shield.

(b) Thus, one of skill in the art would not have been motivated to combine the two elements for only the minor increases that would have been expected. However, it was surprisingly found that a speed increase of 60% (1,100 mpm) was possible while maintaining the stability of the yarn. This synergistic effect would not have been expected by one of skill in the art.

Examiner respectfully disagrees with the Applicant's above argument and would like to point out the reason as discussed in the rejection:

Art Unit: 1791

(a) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, DEBENEDICTIS et al. discloses a yarn making process and apparatus having a low tension relax zone with at least one pair of relax rolls, comprising: providing a relax zone, where yarn is relaxed; providing a tension gate in said relax zone through which the yarn passes (Col.3, lines 1-19). Polyesters can be employed with this invention (Col.4, lines 40-44). DEBENEDICTIS et al. does not explicitly disclose the said yarn making process comprising an air shield comprising perforated plates positioned between the relax rolls. However, BAEK et al. discloses preparing polyester fiber where the method comprises setting the multiple-holed air flow plates (air shield with perforated plates) between a pair of rollers (Abstract). **It would have been obvious to one of ordinary skill in the art to incorporate the air shield of BAEK et al. in the yarn making process of DeBenedictis et al. The motivation for the combination would have been to reduce fiber-breakage and ensure the efficient productivity of fiber-making (Abstract).**

(b) DeBenedictis et al. discloses in Examples 1 and 2 of Column 2 that speed increase was possible while maintaining the stability of the yarn. For instance, the 50%

Art Unit: 1791

drawing speed increase (4,500 mpm) was possible while improving stability. BAEK et al. discloses that the polyester fibre was taken-up at a speed of above 6,000 mpm and that in order to reduce fibre-breakage and ensure the efficient productivity of the high speed fibre-making process, the setting of the perforated plates prevents over-flow phenomenon of air which can maintain the smooth air-flow between the rollers.

Therefore, it would have been obvious to one of ordinary skill in the art that the synergistic effect would have been expected by combining tension gate of DeBenedictis et al. with the air shield of BAEK et al.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1791

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stella Yi whose telephone number is 571-270-5123. The examiner can normally be reached on Monday - Thursday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SY

/Christina Johnson/

Supervisory Patent Examiner, Art Unit 1791